



BEST AVAILABLE COPY

Docket No.: RIC96161

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Haberman et al.

Confirmation No.: 7536

Serial No.: 09/002,187

Art Unit: 2152

Filed: December 21, 1997

Examiner: T. Vu

Title: System and Method for Establishing a Virtual Circuit in an ATM Network

RECEIVED

OCT 11 2005

Technology Center 2100

**FOURTH STATUS INQUIRY REGARDING
PETITION TO WITHDRAW WRONGFUL HOLDING OF ABANDONMENT**

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This is Applicants FOURTH request for the status of the Petition to Withdraw Holding of Abandonment Under 37 CFR 1.181(a). Please advise us in writing as to the status of the above-noted application.

Applicants filed a Petition to Withdraw Holding of Abandonment Under 37 CFR 1.181(a) on May 10, 2001, and have not yet received a decision on the Petition. Applicants received a telephone call from Jim Alexander (P/OPPD; (703)305-8387) indicating that the official USPTO file was lost. Applicants believe that this may be hindering the decision on the Petition, so Applicants filed a copy of Applicants' file history on September 26, 2003. However, Applicants still have not yet received any type of action in this case.

October 4, 2005, Applicants reviewed the Patent Application Information Retrieval system (PAIR) for the current status on the above-noted application (copy included). Under the File History, there is an entry for "12-09-2004: Mail Reconstruction Notice." However, Applicants submit that the Notice was never received, and hereby petition to have any statutory deadlines restarted.

To expedite the reconstruction of the file, review of the Petition to Withdraw Wrongful Holding of Abandonment and issuance of the application as a patent, Applicants have submitted herewith a true copy of the file history.


The undersigned attests that a search of the file jacket and docket records indicates that the Notice of Reconstruction was never received. Evidence that the Notice mailed on December 9, 2004, was never received is provided in the form of a copy of the docket record showing December 9, 2004, through March 9, 2005 (three months from the date of the action), where the non-received Notice would have been entered had it been received and docketed is attached to this statement.

Applicants therefore petition for withdrawal of the holding of abandonment in the above-identified application under 37 C.F.R. §1.181(a).

According to 37 C.F.R. §1.181(d) and M.P.E.P. 711.03(c), Applicants believe that no fee is due. However, should the Commissioner deem a fee due in connection with this paper, please charge any shortage in fees, including extension of time fees, to Deposit Account 13-2491 and please credit any excess fees to such deposit account.

Should anything further be required, Applicants request that the undersigned be contacted at the telephone number indicated below.

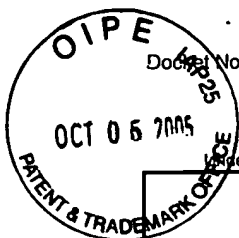
Respectfully submitted,



Eden U. Stright
Registration No. 51,205

Date: October 4, 2005

MCI, Inc.
1133 19th Street, NW
Washington, DC 20036
Phone: 202 736-6008
Fax: 202-736-6382



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OCT 11 2005

Technology Center 2100

Certificate of Mailing under 37 CFR 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

October 4, 2005

on _____
Date

Marlyn S. Holt

Signature

Marlyn Holt

Typed or printed name of person signing Certificate

202.736.6749

Registration Number, if applicable

Telephone Number

Note: Each paper must have its own certificate of mailing, or this certificate must identify each submitted paper.

1. Fourth Status Inquiry Regarding Petition to Withdraw Wrongful Holding of Abandonment (2 pages);
2. Patent Application Information Retrieval print-out of October 4, 2005;
3. Copy of Docketing Ledger from December 9, 2004 to March 9, 2005; and
4. True Copy of File History for Application Number 09/002,187.

This collection of information is required by 37 CFR 1.8. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1.8 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

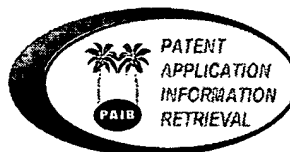
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United States Patent and Trademark Office

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PATENT APPLICATION INFORMATION RETRIEVAL



Search results as of: 10-4-2005::9:4:56 E.T.

Search results for application number: 09/002,187			
Application Number:	09/002,187	Customer Number:	25537
Filing or 371(c) Date:	12-31-1997	Status:	Abandoned – Failure to Pay Issue Fee
Application Type:	Utility	Status Date:	04-25-2001
Examiner Name:	VU, THONG H	Location:	PUBS - FILE MAINTENANCE FACILITY, BAILEYS X-RD, 308-6789
Group Art Unit:	2152	Location Date:	04-25-2001
Confirmation Number:	7536	Earliest Publication No:	-
Attorney Docket Number:	RIC-96-161	Earliest Publication Date:	-
Class/ Sub-Class:	709/250	Patent Number:	-
First Named Inventor:	RANDY HABERMAN, ARLINGTON, TX (US)	Issue Date of Patent:	-
Title Of Invention:	SYSTEM AND METHOD FOR ESTABLISHING A VIRTUAL CIRCUIT IN AN ATM NETWORK		

Search Options

[Assignments](#)
[Image File Wrapper](#)

File History	
Date	Contents Description
<input type="checkbox"/> 12-09-2004	Mail Reconstruction Notice - Abandoned Application
10-01-2003	File Marked Lost
01-24-2001	Workflow - File Sent to Contractor
05-10-2001	Workflow - Drawings Sent to Contractor
04-25-2001	Mail Notice of Abandonment from Publications
04-25-2001	Abandonment for Failure to Pay Issue Fee
03-20-2001	Workflow - Drawings Sent to Contractor
12-18-2000	Mail Notice of Allowance
12-18-2000	Notice of Allowance Data Verification Completed
12-12-2000	Date Forwarded to Examiner
12-01-2000	Amendment after Final Rejection
10-06-2000	Case Docketed to Examiner in GAU
09-11-2000	Mail Final Rejection (PTOL - 326)
09-10-2000	Final Rejection
07-25-2000	Date Forwarded to Examiner
07-24-2000	Response after Non-Final Action

04-24-2000	Mail Non-Final Rejection
04-21-2000	Non-Final Rejection
02-23-2000	Date Forwarded to Examiner
02-15-2000	Response after Non-Final Action
02-15-2000	Request for Extension of Time - Granted
08-04-1999	Mail Non-Final Rejection
08-02-1999	Non-Final Rejection
08-19-1998	Petition Decision - Granted
07-28-1998	Petition Entered
07-09-1998	Case Docketed to Examiner in GAU
06-10-1998	Application Is Now Complete
04-02-1998	Notice Mailed--Application Incomplete--Filing Date Assigned
03-27-1998	IFW Scan & PACR Auto Security Review
06-05-1998	Preexamination Location Change
02-04-1998	Initial Exam Team nn

Wednesday

From PTD

08/983, 080

08/797, 024

Official Published Patent
Official Published Patent

December 8, 2004

Thursday

From PTD

09/412, 269

09/564, 076

09/768, 069

10/114, 939

09/733, 501

09/723, 480

09/469, 506

09/670, 365

Do PTD

10/944, 253 (OC)

09/406, 910 (OC)

09/983, 689 (OC)

10/051, 1022 (OC)

December 9, 2004

Notice of Abandonment

Suppl Not of allow

non-final office action

Return Postcard (from Keith)

Return Postcard (from Keith)

Return Postcard (from Keith)

Return Postcard (from Keith)

Return Postcard (from Keith)

Prison Amend, (trans & fee)

trans) ltr, cert of mail, filed

11/30/2004 by Rittichawong & Carlson

Amend/Reply, (trans & fee trans) ltr,

cert of mail, filed 12/3/2004 by

Rittichawong & Carlson

Amend/Reply, (trans & fee trans) ltr,

cert of mail, filed 12/3/2004 by

Rittichawong & Carlson

Amend/Reply, (trans & fee trans) ltr,

cert of mail, filed 11/29/2004 by

Rittichawong & Carlson

Friday

from PTO

10/804, 690
10/873, 715
09/090, 304
09/903, 591
09/700, 068

December 12, 2004

Notice of applic Pub-
Notice of applic Pub-
Notice of Abandonment
Restrict/Elect Requirement
from Board office action

to PTO

09/150, 025 (oc)

09/135, 540 (MPL)

RCE, postcard, filed 12/6/2004
by Harry E. Snyder

Petition to Withdraw from Class, RCE IDS PTO 1449, 1450, cert of trans, pat confirm, USPTO auto reply confirm

Monday

from PTO

December 13, 2004

to PTO

December 14, 2004

Tuesday

From PTO

To PTO

09/059, 337 (OC)

09/040, 326 (OC)

09/159, 404 (EUS)

09/159, 645 (EUS)

09/140, 844 (EUS)

Notice of appeal, fee trans,
cert of mail, filed by
authorities & Carlson on
12/6/2004

RCE, amended reply, fee
trans, cert of mail, filed
12/7/2004 by Withering
& Carlson

IDS, PTO 1449, USPTO acknowledgement
from c-IDS, fee trans,

IDS, PTO 1449, fee trans, USPTO acknowledgement
from c-IDS

IDS, PTO 1449, fee trans, c-IDS confirm

Wednesday

From PTO

09/273, 304

10/230, 787

09/986, 532

To PTO

6,548,167 (MAN)
(09/159, 514)

10/648, 437 (OC)

10/101, 199 (OC)

09/700, 077 (DJO/MAN)

09/707, 476 (DJO/MAN)

actually
filed
12/7/2004

December 15, 2004

Notice of abandonment
Misc comm Regarding IDS
Non-oral office action

Record cert of name change from
MEI, PTO 1545, fax confirm

Amend/Reply (Trans & fee trans) RCE,
procedural, filed by Wiering &
Dryden on 12/9/2004

Amend/Reply (Trans & fee trans) RCE,
procedural, filed by Wiering & Dryden
on 12/10/2004

Petition to WI, Petition from Texas after
payment of Texas fee RCE, IDS, PTO 1449,
RCE, cert of hand-delivered, postcard

December 14, 2004

Thursday

From PTO

10/059, 057
10/060, 257
09/159, 095

Updated Aging Rept
Notice of Recalculation
Final Office Action

Friday

From PTO

10/054, 544
09/024, 164
10/023, 043
09/097, 060
09/159, 514

Notice of Recalculation
Final Office Action
Final Office Action
Non-final office action
Notice of Recalculation (via fax)

20 PTO

10/002, 159 (AC)

Amend/Reply, (trans & fee trans) ltr.
postcard, filed by Moriarty & Snyder
on 12/15/2004

10/013, 079 (OC)

Amend/Reply, Statement Disclaimer,
(trans & fee trans) ltr, postcard, filed
12/15/2004 by Moriarty & Snyder

09/539, 003 (FAM)

Power/Revocation of attorney and of
trans, fax confirm, USPTO
auto-reply confirm

December 20, 2004MondayFrom PTO09/103, 337
10/020, 893
09/409, 500

Class Notification

Class Notification

Notice of class is class due due

20 PTO

09/159, 404 (EUS)

IDS, PTO 1449, USPTO e-IDS
confirmation. Note: e-IDS
actually filed 12/19/2004 but
confirmation shows date stamp
of 12/20/2004, fee trans

09/159, 695 (EUS)

IDS, PTO 1449, fee trans, e-IDS
confirmation. Note: e-IDS actually
filed 12/19/2004 but confirmation
shows date stamp of 12/20/2004TuesdayFrom PTO

09/708, 077

Decision on Petition (withdrawn & granted)

20 PTO

10/021, 000 (RMP/INT)

Revised Power of Attorney, 3.73(b)
Amend. Cert of trans, fee confirm
USPTO Auto-Reply Confirm

09/723, 402 (EUS)

IDS, PTO 1449, fee trans, e-IDS
confirmation

09/723, 481 (EUS)

IDS, PTO 1449, fee trans, e-IDS
confirmation

09/723, 501 (EUS)

IDS, PTO 1449, fee trans, e-IDS
confirmation

09/723, 480 (EUS)

IDS, PTO 1449, fee trans, e-IDS
confirmation

Wednesday

From PTO

10/882, 157
09/575, 770 and
09/768, 070 and

December 22, 2004

Notice of applic. Pub-
Non-Final Office Action
Notice of allow. & Claim Set Due

To PTO

09/836, 146 (EUS)

IDS, PTO 147, e-IDS confirm;

Thursday

From PTO

To PTO

09/539, 803 (EUS)

09/481, 590 (EUS)

December 23, 2004

Transmit Pay Trans, Trans,
ack of Trans, fax confirm
USPTO Auto Reply Confirm

Transmit the Pay Trans, 312 Amend,
ack of FD Mr, 6 sheets FD, Request
for consideration of previously submitted
IDS, Trans, ack of Trans, fax
confirm, USPTO Auto-Reply Confirm

FridayDecember 24, 2004

COMPANY HOLIDAY

OFFICE CLOSED

FEDERAL HOLIDAY

Mondayfrom PTO

09/059, 337
 10/944, 253
 10/390, 713
 10/953, 082
 10/040, 226
 09/406, 910
 09/983, 609
 10/440, 598
 09/426, 038
 10/065, 465
 10/799, 950

20 PTO

09/036, 589 (OC)

10/404, 104 (OC)

COS99050C1 (OC)

December 27, 2004

Return Postcard (from Keith)
 Return Postcard (from Keith)
 Return Postcard (from Keith)
 Return Postcard (from Keith)
 Return Postcard (from Keith)
 Return Postcard (from Keith)
 Return Postcard (from Keith)
 Notice of Abandonment
 Notice of Abandonment
 Notice of Reconsideration
 Non-Judicial Office Action (from Reed Smith)

Amend/Reply, (trans & fee trans) Kls,
 Cert of mail, filed 01/16/2004 by
 Dittmar & Carlson

Amend/Reply, (trans & fee trans) Kls,
 Cert of mail, filed 02/16/2004 by
 Dittmar & Carlson

Continuation applic w/ 35pp spec, 6
 pg of drawings, util (trans & fee trans),
 prelim amend, applic, data sheet,
 dec, post prove, copy of cert of
 some change from M&W to M&W - M&W Inc.
 cert of express, filed by O&C on 12/17/2004

Monday (cont.)

From PTO (cont.)

10/99, 515
10/99, 516
09/201, 341
09/107, 476
10/089, 128
10/019, 323

Drilling Rept
Drilling Rept
Notice of abandonment
Dec of Pate to Withdraw Invol (2nd)
Notice of applic Pate (from HE &)
Non-Serial Office Action

December 27, 2004 (cont.)

20 PTO (cont.)

10/021, 090 (OC)

Amend/Reply, (trans & fee trans) via
cert of mail, filed 12/21/2004
by Withdrawing & Carlson

10/115, 051 (OC)

Amend/Reply, (trans & fee trans) via,
cert of mail, filed 12/20/2004
by Withdrawing & Carlson

SKY04003 (OC)

Util applic w/ 05 pp spec, 6 sheets
drawg, dec, applic data sheet,
PTO/595, assign, util trans,
fee trans, cert of express mail,
filed on 12/16/2004 by Withdrawing
& Carlson

Monday (cont.)

20 PTO (cont.)

09/036, 177 (EUS)

IDS, PTO 1479, 2 docs, trans
cert of trans, fax confirm,
USPTO - Auto-Reply confirm

09/036, 146 (EUS)

IDS, PTO 1479, 2 docs, trans,
cert of trans, fax confirm,
USPTO Auto-Reply confirm

10/139, 430 (EUS)

Suppl applic data sheet, trans
cert of trans, fax confirm, USPTO
auto-reply confirm

10/050, 501 (EUS)

Request for corrected recordation w/
copy of Notice of Reexamination - w/
correction noted on recd. copy of
orig PTO 1595, copy of reg executed
assign by Richard C. Skellie, fax
confirm, USPTO auto-reply
confirm

Tuesday

From PTO

60/637, 405

04/904, 365

10/786, 298

December 28, 2004

Return Postcard
 Non-final office action
 Final office action

December 29, 2004

Notice of Reconsideration (via fax)
 Non-final office action
 Non-final office action

Rec'd cert of name WCOM - MCF,
 PTO 1595, USP TO Electronic
 information

Continuation applic 2/6 pp/spec,
 6 sheets drawing, 1 annexes described
 6 sheets FD, sub-4 FD-100, applic,
 data sheet, IP, PTO 1449, problem
 amend util (trans & fee trans) etc,
 postcard, filed on 12/27/2004
 by Marley & Snyder

Wednesday

From PTO

09/159, 406

10/097, 863

10/097, 862

To PTO

09/159, 406 (EUS)

COS 98 02/CI (OC)

Thursday
Friday

4 hours PTO

09/539, 803
08/509, 051
08/332, 777
16/889, 051
16/891, 000
16/047, 684

December 30, 2004

Notice Regarding PBA (current accepts)
Notice Regarding PBA (current accepts)
Notice Regarding PBA (current accepts)
Notice of Appeal: Put
Non Verbal officer action
Notice of abandonment

Friday

December 31, 2004

OFFICE CLOSED
FEDERAL HOLIDAY
COMPANY HOLIDAY

Monday

January 3, 2005

From PLO

to PTC

RIC 000331 (OC)

Continuation applic w/ 65ppd
spec, 31 subs druggi, dec.
copy of memo/ppt, prelim accord,
applic data sheet, copy of
certs of names change, WCOM -> MCI,
util trans, fee trans, cert
of express mail, filed
12/20/2004 by Williams
E Carlson

Tuesday

From PTO

10/22/9, 12B
10/17/9, 616
10/22/9, 386

Corrected Aging Rpt
Non-Financial Office Action
Notice of Reconsideration

January 7, 2005

Tuesday (cont.)

to PTO (cont.)

C0597160 CE (OC)

Continued on applic w/ 69 pgs
spec, 17 sheets drawings,
dec, copy of record/PTA,
applic data sheet, prelim
amend, cert of name change
MILW -> NCOM -> MCI, label
trans, fee trans, cert of
express mail, filed 12/23/2004
by Dithmering & Carlson

to PTO

09/14/4, 201 (OC)

amend/Reply (trans & fee trans) in
cert of ~~express~~ mail, filed
12/23/2004 by Dithmering &
Carlson

10/22/9, 800 (OC)

amend/Reply (trans & fee trans) in
terminal disclaimer, trans
fee trans, cert in mail, filed
12/23/2004 by Dithmering
& Carlson

January 4, 2005 (cont.)

Wednesday

January 5, 2005

From PTO

09/103, 021
10/020, 003

Official Published Patent
Official Published Patent

Thursday

January 6, 2005

From PTO

11/030, 656
09/433, 530
10/077, 366
09/801, 394

Return Postcard
Issue Notification
Issue Notification
Notice of Abandonment

To PTO

10/960, 941

PTO 1545, assign, Electronic USPTO
Confirm

To PTO

To PTO (Cont)

09/805, 032 (EUS)

IDS, PTO 1449, c-IDS USPTO
electronic confirm

10/113, 662 (EUS)

IDS, PTO 1449, c-IDS
USPTO electronic confirm

09/805, 031 (EUS)

IDS, PTO 1449, c-IDS USPTO
electronic confirm

09/404, 704 (DIO/EUS)

Show the Pay Trans, stat of
FD Mv, 88000 FD, Trans,
act of Trans, fax confirm,
USPTO auto-Reply confirm

09/436, 796 (EUS)

IDS, PTO 1449, fee authentication,
c-IDS USPTO electronic confirm

10/113, 013 (EUS)

IDS, PTO 1449, c-IDS USPTO
electronic confirm

09/863, 756 (EUS)

Status Inquiry, cert of trans,
fax confirm, USPTO auto-
Reply confirm

advised
filed
10/10/05

10/113, 543 (EUS)

IDS, PTO 1449, c-IDS USPTO
electronic

10/821, 920 (EUS)

RTNIFICAP, copy of RTFICAP,
Substitute Specification-76pp,
Trans, cert of Trans, fax confirm,
USPTO auto-Reply confirm

Thursday (cont.)

Do PTO (cont.)

10/759,406

PTO 1395, cont. of names
change from USPTO to
M.I., Inc., electronic
USPTO comp. reg.; C-IDB
USPTO electronic comp. reg.,
IDB, PTO 1449

January 6, 2005 (cont.)

Friday

John PTO

January 7, 2005

Do PTO

10/113,909 (EUS)

C-IDB, PTO 1449, USPTO
electronic comp. reg.

10/113,908 (EUS)

C-IDB, PTO 1449, USPTO
electronic comp. reg.

10/110,000 (EUS)

C-IDB, PTO 1449, USPTO
electronic comp. reg.

10/113,772 (EUS)

C-IDB, PTO 1449, USPTO
electronic comp. reg.

10/113,691 (EUS)

C-IDB, PTO 1449, USPTO
electronic comp. reg.

Sunday

January 9, 2005

Thorn PTO

20 PTO

10/404, 110 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/404, 111 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/636, 430 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/404, 113 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

Monday

January 10, 2005

Thorn PTO

10/966, 841

Notice to Mr. Max Eads, Acting
Regt.

09/723, 501

Advisory Action

09/339, 209

Communications Request Appeal

09/436, 796

Non-Final Office Action

09/468, 460

Notice of Disbarment

10/030, 498

Notice of Disbarment

10/759, 400

Notice of Recalculation (non-pay)

10/966, 841

Notice of Recalculation (non-pay)

20 PTO

10/404, 093 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/404, 330 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/636, 709 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/404, 079 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/404, 541 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/404, 094 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

Monday (cont.)

January 10, 2005 (cont.)

January 11, 2005

Do PTO (cont.)

Tuesday

From PTO

11/016, 159 (OC)

Protein Command, (trans
e fee trans) etc, cert of mail,
filed 1/5/2005 by
Witherby & Carlson

Updated filing Regs
Notice of abandonment

10/115, 250 (OC)

Amend/Reply, (trans e fee
trans) etc, cert of mail, filed
1/6/2005 by Witherby & Carlson

10/045, 071 (OC)

Amend/Reply, (trans e fee trans) etc,
cert of mail, filed 1/5/2005 by
Witherby & Carlson

Do PTO

10/054, 245 (OC)

Suppl. app. petition under
37 CFR 1.183, (trans e fee
trans) etc, postcard, filed
1/7/2005 by Witherby & Carlson

c-IDS, PTO 1449, USPTO
electronic confirmation

10/790, 340 (OC)

c-IDS, PTO 1449, USPTO
electronic confirmation

10/033, 297 (EUS)

c-IDS, PTO 1449, USPTO
electronic confirmation
(2nd IDS)

10/099, 323 (EUS)

c-IDS, PTO 1449, USPTO
electronic confirmation

10/170, 615 (EUS)

c-IDS, PTO 1449, USPTO
electronic confirmation

Wednesday

4 Term PTO

10/135, 439
09/333, 777

No PTO

09/079, 016 (OC)

Amend/Reply (Trans & few
trans) ltr, postcard,
filed 1/10/2005 by
Narabay & Snyder

10/385, 329 (EUS)

e-IDS, PTO 1449, USPTO
USPTO confirm

10/643, 056 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/095, 416, 101 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/095, 456 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/095, 910 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/095, 909 (EUS)

e-IDS, PTO 1449, USPTO, electronic confirm

January 12, 2005

Wednesday (cont.)

No PTO (cont.)

10/921, 920 (EUS)

e-IDS, PTO 1449,
USPTO electronic confirm

09/095, 910 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

09/708, 069 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/111, 111
Final
Amended

Thursday

January 13, 2005

Turn PTO

Friday

012

Strom & Co PTO

09/002, 951

00/037, 405

10/758, 769

10/758, 768

Do PTO

Do PTO

09/001, 699 (OC)

10/200, 727 (OC)

Comm Report Discussion of
Non Plot and/or Name of King
Biting

Filing Rept

Updated Filing Rept

Updated Filing Rept

Appel Brief, (Trans & few items)
etc, cont of postcard filed by
Harrity & Snyder on 1/11/2005
Amend / reply, (Trans & few items)
etc, postcard, filed by
Harrity & Snyder 1/7/2005

10/440, 539 (OC)

Amend / Reply, (Trans & few
Trans, etc, postcard, filed
by Harrity & Snyder on
1/7/2005

January 14, 2005

Monday

January 17, 2005

FEDERAL &
COMPANY HOLIDAY

Tuesday

10
Vroom PTO

10
PTO

¹⁷
January 18, 2005

Wednesday

January 19, 2005

Thursday

January 20, 2005

From PTO

09/840,360
10/608,137
10/225,241
10/975,215
10/975,971
10/975,214
10/921,920
10/047,563

So FTO

09/435,540 (11AIV)

Slater Inquiry v.
Pittman v. Wellington
page 10, filed 12/10/20
Girl of Kansas, Jay
Compton

Complete

 $2c \dot{p} \dot{T} \bar{u}$

10/27/79, 093 (EUS)

C-IDS, USPTO Elections
Completed, PTO 1449

10/09/7, 863 (EUS)

c-IDS, PTC 1449, USPTO electronic system.

Thursday (cont.)

20 PTO (cont.)

09/023, 626 (OC)

Answer/Reply, (Trans & few
trans) etc, cert of mail,
filed 1/13/2005 by
Dellhamm & Carlson

10/115, 254 (OC)

Answer/Reply, (Trans & few
trans) etc, cert of mail,
filed 1/15/2005 by
Dellhamm & Carlson

811 97149C3 (OC)
(1/034, 699)

Cont applic. 20/24 pgs
spec, 5 sheets, diverged,
used (Trans & few trans)
problem & note, applic
diagram, copy of
revise/ptt, dec, cert
of applic. made, filed
1/13/2005 by Dellhamm
& Carlson

January 21, 2005

Friday

From PTO

20 PTO

10/979, 811 (EUS)

c-ID5, PTO 1449, USPTO
electronics information

10/030, 667 (EUS)

Answer/Reply, (Trans & few
trans) etc, postcard filed
1/10/2005 by Haverly &
Dwyer

10/097, 802 (EUS)

c-ID5, PTO 1449, USPTO electronics
information

10/097, 806 (EUS)

c-ID5, PTO 1449, USPTO electronics
information

10/097, 934 (EUS)

c-ID5, PTO 1449, USPTO electronics

Monday

January 24, 2005

De PTO

07/723, 400
10/016, 110
10/132, 372Priority Action
From Head Office Action
From Head Office Action

Tuesday

January 25, 2005

De PTO

10/975, 545
10/979, 093
10/045, 915
07/575, 470
10/110, 000Filing Rept.
Filing Rept.
Notice of Allowance: London due
From Head Office Action
From Head Office Action

De PTO

07/007, 004 (AC)

Original Reply, (Trans & per
Trans) etc. prepared, filed
by Mordy & Mordy on 1/14/05
In E.O.T.

10/009, 120 (EUS)

C-IDS, PTO 1449, USPTO
electronic confer

09/700, 070 (DIO)

Carlo y name change
MKIN-NORM & NORM to
MCI, PTO 15053, for
conferred

10/761, 375 (EUS)

C-IDS, PTO 1449, USPTO
electronic confer

Wednesday (cont.)

January 26, 2005 (cont.)

Wednesday (cont.)

January 26, 2005 (cont.)

2a PTO (cont.)

10/933, 461 (EUS)

Status Inquiry, cert of trans, for confirm, USPTO auto reply confirm, w/ regard to no of patent

10/947, 579 (EUS)

Status Inquiry, cert of trans, for confirm, USPTO auto reply confirm, w/ regard to no of patent

10/921, 387 (EUS)

Status Inquiry, cert of trans, USPTO auto reply confirm, w/ regard to RCE

10/449, 505 (EUS)

Status Inquiry, cert of trans, for confirm, USPTO auto reply confirm, w/ regard to reply filed 6/30/2004

10/946, 901 (EUS)

Status Inquiry, cert of trans, for confirm, USPTO auto reply confirm, w/ regard to no of patent

2a PTO (cont.)

11/633, 953 (OC)

3rd Patent income, (trans & few trans), cert of mail, filed 1/25/2005 by Willhaug & Carlson

10/976, 303 (OC)

Amend/Reply, (trans & few trans), cert of mail, filed 1/24/2005 by Willhaug & Carlson

09/723, 481 (OC)

Amend/Reply, (trans & few trans), cert of mail, filed 1/18/2005 by Willhaug & Carlson

09/723, 501 (OC)

Amend/Reply, (trans & few trans), cert of mail, filed 1/19/2005 by Willhaug & Carlson

09/723, 923 (OC)

Notice of appeal, cert of mail, filed 1/18/2005 by Willhaug & Carlson

10/330, 787 (EUS)

Status Inquiry, w/ copies of issue payment trans papers, filed 7/15/2004, cert of trans, for confirm, USPTO auto reply confirm

Thursday

From PTO

January 27, 2005

Friday

From PTO

09/708, 070

09/152, 008

10/979, 911

10/910, 928

10/282, 159

09/278, 024

10/071, 002

09/219, 711

09/215, 045

10/041, 549

10/043, 705

09/002, 051

09/097, 304

09/409, 525

09/708, 070

To PTO

Notice of Recantation (McJannet - mem)
 Notice of Abandonment
 Notice to take Miss Parts, Henry
 Expt

Notice of Appeal Pub-
 Library Action
 Advisory Action
 Notice of Recantation
 Notice of Recantation
 Decision from Panel (Ex-man)
 Notice of Abandonment
 Non-Final Appeal Action
 Non-Final Appeal Action
 Non-Final Appeal Action
 Final Appeal Action
 Notice of Recantation (mem - McI)

10/113, 471 (00)

Amend/Reply, (Hans & Ke. Hwang)
 Re, Exhibit A - Repayment of debt
 for interest, Exhibit B - Sale -
 changed position w/ financing
 Ref & partially covered IAS-1471
 & Exhibit (clear copies of
 14491)
 posted

Friday (cont.)

January 29, 2005 (cont.)

Monday

January 31, 2005

To PTO (cont.)

OKL 04 001 (OC)

Will apply w/ 20 pg spec,
4 sheets drawings, disc, Apple
data sheet, PTO 1595, drawings,
IDS, PTO 1447, report,
disc (trans & pen for analysis),
postcard.

OKL 04 001 (OC)

Will apply w/ 20 pg spec,
6 sheets drawings, disc, Apple
data sheet, PTO 1595, drawings,
IDS, PTO 1447, report, Apple Pen,
& pen for analysis, postcard.

To PTO

10/038, 491 (000)

RTN TFMP, 4 mo EOJ, Substantive
figure 7, copy of NTFMP,
cost of trans, USPTO Auto Reply
confirm, fax confirm

Tuesday

From PTO

10/890, 230
09/908, 831
10/836, 667

Notice of Recardation
Notice of Abandonment
and Notice Advisory Action

February 1, 2005

Wednesday

From PTO

10/290, 427
10/859, 763

Not of Allow & Claimants Due
Division on Petition Dismissed

February 2, 2005

To PTO

08/924, 928 (EUS)

3-73(b) Statement, Power/Recreation Pet,
Cert of Trans, fax confirm,
USPTO auto-Reply confirm

10/843, 705 (EUS)

3-73(b) Statement, Power/Pat,
Cert of Trans, fax confirm,
USPTO auto-Reply confirm

10/966, 841 (EUS)

RTN/TFMP, copy of NT FMP,
dec, fee Trans, cert of Trans,
fax confirm, USPTO auto-
Reply confirm.

Wednesday (cont.)
No PTO (cont.)

February 2, 2005 (cont.)

Wednesday (cont.)
No PTO (cont.)

February 2, 2005 (cont.)

09/575, 470 (EUS)

Reply to office action
w/ main date of 12/20/04
cert of trans, fax confirm,
USPTO Auto-Reply
confirm

10/230, 707 (EUS)

Petition to Withdraw from
Jensen, RCE, IDS, PTO 1449
cert of trans, fax confirm,
USPTO Auto-Reply confirm

11/023, 953 (EUS)

IDS, PTO 1449, trans,
cert of trans, fax confirm,
USPTO Auto-Reply
confirm

09/564, 876 (EUS)

Petition to Withdraw from
Jensen, RCE, IDS, PTO 1449
cert of trans, fax confirm,
USPTO Auto-Reply confirm

09/575, 469 (EUS)

IDS, PTO 1449, cert, trans,
cert of trans, fax confirm,
USPTO Auto-Reply confirm

08/751, 668 (EUS)

Status Inquiry, cert of
trans, fax confirm,
USPTO Auto-Reply confirm

10/041, 549 (EUS)

Request withdrawal of
holding of abandonment w/
copy of date-stamped
abandoned request postcard
w/ fax 9/15/04
e reply, cert of trans,
fax confirm, USPTO Auto-Reply
confirm

11/020, 656 (EUS)

Submission of new PTO
and RTRTFRP, copy of ~~PTO~~ ^{IDS}
copy of dec from parent office,
3-73 document, power/leave,
copy of decision on 1-17 from
parent, trans, cert of trans,
fax confirm, USPTO Auto-Reply
confirm

10/045, 880 (EUS)

Request withdrawal of
holding of abandonment
w/ copy of USPTO Auto Reply
confirm, trans, fax confirm,
trans, trans, trans, trans
upheld 9/17/004, cert of trans,
fax confirm, USPTO Auto-Reply

Thursday

From PTO

10/097, 868
09/040, 360

Final Office Action
Official Patent Rejection

February 3, 2005

Friday

From PTO

10/292, 256
10/900, 335
10/900, 331
10/456, 358

Status Reply after
Notice of Reexamination
Non-final Office action (from
Status & Notice)

February 4, 2005

10/292, 256 PTO

10/447, 252 (MM/Bus)

Clearance Payment
Status, Status, Status of FD
Status, 5 sheets FD
312 amendment, cert of
Status, page confirm
US PTO Anti-Reply
Confirm

Monday

February 4, 2005

From PTO

11/041, 402
09/159, 503Return Postcard
Notice of appeal & grounds

Tuesday

From PTO

11/041, 420
10/797, 060
10/017, 275
10/011, 002
09/911, 592
09/504, 076Return Postcard
Notice of Publication (49d)
Notice of appeal Pet-
Notice of appeal Pet-
Non-Final Office Action
Decision on Petition to Withdraw
(Dismissed) via fax

February 8, 2005

In PTO

09/506, 321 (OC)

Appeal Brief, (Trans fee
trans) etc. postcard filed
1/31/2005 by Murray &
Gryder

Wednesday

February 9, 2005

Wednesday (Cont.)

From F70

09/159, 403
09/564, 876

06/564, 276

10/657, 328

116, 131, 971

Pigs 100/6g

$$150,000 / 80$$

20 FT0

10/282,154 (OC)

REC, 1mo EOT, forwarded
filed 2/2/2005 by
Harrity & Snyder

09/859,337(a)

Appeal Brief, Trans-
-free Trans, cert of mail,
filed 2/13/2005 by
Dethlefsen & Carlson

09/278, 084(ac)

Notice of appeal sent by
mail filed 3/2/2005
by DeChavigny & Carlson

10/053, 616 (oc)

Amount/Ready (Trans i: few
Trans) like cost of mail,
piled 1/28/2005 by
Withaway & Carlson

February 9, 2005 (cont.)

do PTO (cont.)

11/02/6, 2/16/00

Return
Amund, (have a few hours)
the cost of mail paid.
2/2/2005 by Dickinson
& Carlson

09/723, 420 (02)

Notice of Appeal, cert of
maul, filed 1/24/2005
by Williamson, Carlson

10/500, 397(x).

Answered/Reply, (trans &
for trans) ltr, cert of mail
filed 2/4/2005 by Dickinson
& Carlson

Thursday

From PTO

09/481, 473

Notice of Abandonment

February 10, 2005

Friday

From PTO

11/014, 566
10/230, 787

Writing Rept
Decision on Petition Withdrawal
(Dismissed)

10/858, 791

Decision on Petition (Unsub-
stantiated)

10/440, 597
10/115, 255

Notice of Abandonment
Non-Final Office Action
Non-Final Office Action

10/404, 104

To PTO

To PTO

10/036, 667 (OC)

RCE, prepared, filed by
Hartley & Snyder on 2/7/2005

Monday

February 14, 2005

From PTO

To PTO

Tuesday

February 15, 2005

From PTO

09/023, 626
 09/070, 084
 10/053, 616
 10/076, 323
 11/034, 699
 09/427, 783
 11/036, 216
 11/030, 216
 09/723, 481
 09/723, 501
 09/723, 480
 11/033, 953
 11/033, 953
 09/859, 337
 10/906, 871
 10/910, 369
 10/051, 182
 10/404, 541
 10/632, 208
 10/657, 328
 10/794, 427
 10/817, 295

Return Postcard (from Keith)
 Return Postcard (from Keith)
 Return Postcard (from Keith)
 Return Postcard (from Keith)
 Return Postcard (app filing - from Keith)
 Return Postcard (from Keith)
 Return Postcard (app filing - from Keith)
 Return Postcard (amend filing - from Keith)
 Return Postcard (from Keith)
 Return Postcard (from Keith)
 Return Postcard (from Keith)
 Return Postcard (app filing - from Keith)
 Return Postcard (amend filing - from Keith)
 Return Postcard (from Keith)
 Updated Filing Repl
 Notice of Recalculation
 Notice of Allowance
 Notice of Renewal Applicable Pub Date
 Notice of Renewal Applicable Pub Date
 Notice of Renewal Applicable Pub Date
 Updated Filing Repl
 Decision on Petition

Tuesday (cont.)

From PTV (cont.)

February 15, 2005 (cont.)

Wednesday

From PTO

661, 181/91.

Notice of Abandonment

ile PTO

CAL05001 (α)

11/14/ apple w/ 31 pages, 12 sheets FD,
IDS, PRO 1479, dec., applic. date
sheet, PRO 1575, assoc. pr.
refers, sub (trans & file trans) a
particular, filed 2/9/1975.
by Harris, & Snyder.

RL04020 (OC)

With applic w/ 1990s appc, 5, send
FO, dec, applic below sheet,
P/O 1995, assign, with (Kearns &
fee trans) ltr, cert of expirion
mail, filed 2/9/2005 by
Bathurst & Carlson

$$11/034,699(x)$$

Prellum / (Hans & Helga) Elter,
Arend /
Ard of mail, filed by
Dithmar & Carlson on
2/19/2002

2/19/2025

Thursday

From PTO

10/903, 510
10/944, 253
11/023, 953
09/783, 745
09/036, 589

February 17, 2005

Notice of applic. Put-
Notice of applic. Put-
Filing Rept
Notice of Abandonment
Final Office Action

Friday

From PTO

11/052, 848
08/777, 824

20 PTO

08/932, 38.7 (OC)

10/702, 190 (OC)

Amend/Reply, (trans & per trans) the
patent, filed 2/15/2005 by
Warrick & Bradley

Amend/Reply, Term disclaimer,
132 applicant of singular definition
(trans & per trans) the, cert of
mail, filed 2/14/2005 by
Dutthamony & Carlson

10/033, 0.43 (OC)

Amend/Reply, (trans & per
trans) the, cert of mail,
filed 2/15/2005 by
Dutthamony & Carlson

10/759, 706 (OC)

Corrected PTO 1595, copy of
Notice of Record w/ correction
noted, by mail, filed
2/15/2005

09/096, 936 (OC/EUS)

Change Fee Pay Trans, 3/2 abroad
Sub of FO the, 15 appeals of FO, Request
for consideration of Reexamination filed 2/15/2005
Trans instructions have been in

Friday (cont.)

February 19, 2005 (cont.)

Monday

February 21, 2005

20 PTO (cont.)

04/575, 469 (FAM/MMS/EUS)

Close due pay trans,
trans, cert & trans,
fax confirm, USPTO
Auto-Reply confirm

09/416, 101 (FAM/MTR)

Station Inquiry, copy
of original papers orig.
filed 10/14/2002, copy
by station inquiry, filed
3/24/2003, cert of trans,
good confirm, USPTO
Auto-Reply confirm

09/504, 876 (QTO)

Response to demand
relating to all relevant from
Close copy of petition to
withdraw from some papers
orig. filed 3/24/2005,
cert of trans, fax
confirm

09/503, 402 (FAM/MMS/EUS)

Close due payment
trans, trans, request
consideration of fees
previously filed I.P.S.,
cert of trans, fax
confirm, USPTO
Auto-Reply confirm

FEDERAL HOLIDAY

COMPANY HOLIDAY

Tuesday

From PTO

February 22, 2005

Tuesday (cont.)

To PTO (cont.)

10/709, 575 (EUS)

February 22, 2005 (cont.)

IDS, PTO 1449, ref, trans,
cont of trans, fax confirm,
USPTO Auto-Reply confirm

To PTO

08/777, 824 (EUS)

Request for corrected
Notice of Reexamination, copy
of Notice previously
received, fax confirm
USPTO Auto-Reply confirm

09/436, 796 (EUS)

IDS, PTO 1449, trans, ref,
trans, cont of mail, postcard

09/779, 092 (EUS)

IDS, PTO 1449, ref,
trans, cont of mail,
postcard

10/826, 114 (EUS)

IDS, PTO 1449, ref, trans,
cont of mail, postcard

Wednesday

February 23, 2005

Wednesday (Cont.)

February 23, 2005 (cont.)

From PTO

10/293, 736

07/564, 876

10/114, 939

16/325, 859

1649/50, 6920

09/159, 403

Notice of Abandonment
Division on Pensions & Withdrawals

Anal. C₁₀H₁₂O₂ 162.20

Turn-Anal. operation

Her-Famil' office 'action

Effluent Pulpwood Patient

29/54, 645 (645)

(Sms) 981 866 866

09/846, 770 (EUS)

Statutes Engraving w/ Copies
of petition papers & confirm
orig. pd. 29/2007, cert. of
denial, 1929 confirm

IDS, PTC 1449, Repoi, Frank,
Cert of Frank, fax confirm,
USPTO Cuto-Reply confirm

IDS, p101449, refs, trans,
word of trans, fox confirms

26 PTD

10/409,375 (FAM/ELS)

How I've pay trans, request
for consideration of severely
retarded ID's, trans, conf
of trans, for confirm, USPTA
auto-reply confirm

60/000, 655 (EUS)

Petition to Civilizing Inventors
to Please apply w/ cert of
Oath, for Patent confirm
USPTO Auto-Reply Confirm

Thursday

February 24, 2005

From PTO

No PTO

Friday

February 25, 2005

From PTO

11/057, 275

11/024, 210

10/325, 839

09/452, 957

08/575, 433

04/370, 504

10/040, 074

10/051, 100

No PTO

10/786, 290 (ac)

Amend/Reply (Trans & fee)
 Mr. Postcard, filed 2/14/2005
 by Parvathy & Snyder

Return Postcard

Filing Rept

Division in Petition to Amend

Convincing (Shantel)

Notice of Abandonment

Non-Final Oppor Action

Non-Final Oppor Action

Non-Final Oppor Action

Non-Final Oppor Action

Monday

February 28, 2005

From PTO

10/721, 472

Notice of Reexamination (non-pat)

Tuesday

March 1, 2005

From PTO

09/930, 025

Non-stated office action
Notice of Appeal. Pat
Notice of Appeal. Pat-

10/800, 002

10/953, 022

20 PTO

10/864, 090 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

20 PTO

10/440, 539 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/721, 472 (EUS)

e-IDS, PTO 1449, USPTO
confirm kept; record
cost of name change from
WCOM to MCI (electronic);
USPTO electronic confirm
kept

and

10/436, 796 (EUS)
e-IDS, PTO 1449, USPTO
electronic confirm

10/809, 051 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

10/343, 443 (EUS)

Petition under 1.78(d)
(consideration of amendment)
cost of paper, fee confis
USPTO rule reply
confirm

60	Wednesday	March 2, 2005	To Wednesday (cont.)	March 2, 2005 (cont.)
	From PTO		To PTO (cont.)	
	10/014, 302	Non-Initial Office Action	60/547, 705 (EUS)	Request cert copy of appl
	09/587, 015	Notice of Abandonment		as filed, fax confirm
	10/755, 445	Notice Regarding PRA (PRA account accepted)	60/547, 706 (EUS)	"
	09/597, 314	Notice of Rescinded Abandonment	11/057, 275 (EUS)	"
	09/591, 629	Notice of Abandonment	10/858, 502 (EUS)	"
			60/560, 009 (EUS)	"
			10/858, 501 (EUS)	"
			10/860, 803 (EUS)	"
			10/858, 491 (EUS)	"
			10/858, 503 (EUS)	"
	To PTO		10/858, 517 (EUS)	"
	10/699, 823 (EUS)	Request for certified copy of application as filed, cert of ^{no} fax confirm	10/857, 057 (EUS)	"
			10/858, 808 (EUS)	"
			10/859, 463 (EUS)	"
			10/860, 609 (EUS)	"
	10/758, 213 (EUS)	"	10/859, 468 (EUS)	"
	10/758, 720 (EUS)	"	10/858, 525 (EUS)	"
	10/759, 404 (EUS)	"		
	10/975, 575 (EUS)	"	10/889, 128 (EUS)	e-IDS, PTO 1749, USPTO electronic confirm
	10/537, 896 (EUS)	" (4 copies)		
	10/975, 215 (EUS)	"		
	10/975, 971 (EUS)	"	10/701, 575 (EUS)	e-IDS, PTO 1749, USPTO electronic confirm
	10/975, 214 (EUS)	" (2 copies)		
	10/994, 437 (EUS)	"		
	10/800, 272 (EUS)	"	10/068, 381 (EUS)	e-IDS, PTO 1749, USPTO electronic confirm
	10/786, 298 (EUS)	"		
	10/998, 348 (EUS)	"		
	60/517, 899 (EUS)	"	10/230, 787 (EUS)	e-IDS, PTO 1749, USPTO electronic confirm
	10/200, 672	"		

To PTO (cont.)

60/560, 009 (EUS)

Request for certified copy
of applic. as filed (11),
fax confirm

10/034, 202 (EUS)

Status Confirmed, cert of
trans, fax confirm, USPTO
Auto-Reply confirm, e-IDS,
PTO 1449, USPTO electronic
confirm

10/036, 667 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

09/968, 070 (EUS)

e-IDS, PTO 1449, USPTO
electronic confirm

From PTO

09/436, 794

Return Postcard

09/779, 092

Return Postcard

10/979, 811

Notice of Reexamination (via fax)
Notice of Reexamination (via fax)
(corrective MCI)

09/469, 506

Notice of Reexamination (via fax)
(from MCI → WIPO)

09/469, 506

Notice of Reexamination (via fax)
(from WIPO → MCI, Inc.)

26 PTO

11/016, 159 (EUS)

IDS, PTO 1449, trans, cert of trans,
fax confirm, USPTO Auto-Reply confirm

11/034, 699 (EUS)

IDS, PTO 1449, trans, cert of trans,
fax confirm, USPTO Auto-Reply confirm

11/036, 314 (EUS)

IDS, PTO 1449, trans, cert of trans,
fax confirm, USPTO Auto-Reply
confirm

10/979, 811 (EUS)

PTO 1595, assign, filed electronically

09/469, 506 (EUS)

Revised cert of trans, assign, from MCI → WIPO
PTO 1595, filed corrective reexamination
using copy of assign, for MCI, Inc. & MCI, Inc.
filed electronically

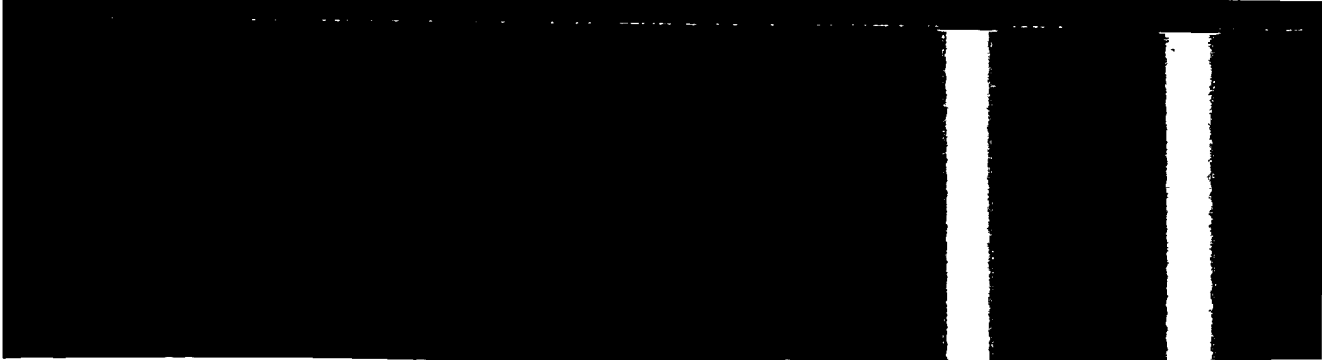
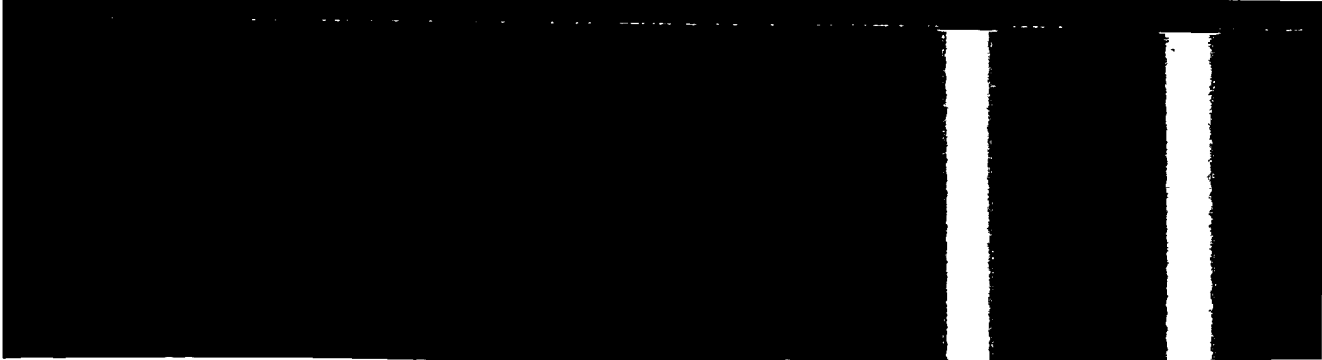
Thursday (cont.)

March 3, 2005 (cont.)

Friday

March 4, 2005

10/034, 463 (EUS)	Remand 1.476 Petition cert of trans, fax confirm, USPTO auto-reply confirm	From PTO	10/074, 323 Addressing Action USPTO Comm Regarding Consider of IDS
10/979, 011 (EUS)	RTN/TFMP, copy of NTFMP, disc, trans, fax trans, fax confirm, USPTO auto- Reply Confirm	10/045, 071 10/927, 753 11/034, 699 10/860, 604	Notice of Applicable Pub- Notice of Applicable Pub- USPTO Petitioning Decision on 1.476 Petition (Granted)
09/469, 506 (EUS)	Revise/Petition of attorney, 3.13 (b) Stemmed, cert of trans, fax confirm, USPTO auto-Reply confirm	10/798, 348 10/851, 974	Non-Initial Office Action Non-Initial Office Action
		USPTO	
		10/979, 011 (EUS)	Prelim Amend, cert of trans, fax confirm, USPTO auto-Reply Confirm
		09/768, 068 (AC)	Amend/Reply, (Trans & fee trans) ltr, precluded, final 2/28/2005 by priority E Smyth



Monday

March 7, 2005

From PTO

11/041, 402 Filing Rept
 10/013, 777 Notice of Recodation (usa fax)
 10/026, 114 Return Postcard
 00/055, 911 Return Postcard
 10/922, 131 Notice of Recodation
 09/721, 590 Misc 312 & IDS Communication

To PTO

10/013, 777 (EUS) PTO 1585 assign, electronic Confirmation
 09/768, 069 (OC) Amend/Reply, (Trans & per Trans) ltr, postcard filed 2/28/2005 by Kaurley & Snyder
 RICO5001 (OC) Mil applic w/ds pgs & spec, 5 sheets design, dec, PTO 1585 assign, applic data sheet, IDS, PTO 1449, repr, util, (Trans & per Trans) ltr, postcard, filed 2/25/2005 by Kaurley & Snyder

Tuesday

March 8, 2005

From PTO

11/064, 973 Return Postcard
 11/041, 420 Filing Rept
 09/206, 044 Notice of Abandonment/
 Interview Summary
 08/924, 928 Suppl Notice of Allowance

To PTO

10/699, 023 (OC) Amend/Reply, (Trans & per Trans) ltr, postcard, filed by Kaurley & Snyder on 2/28/2005
 RICO5002, PR (OC) Prior applic w/ 40 sheets of spec, 3 sheets design, applic data sheet provided Trans & per Trans) sheet, filed 2/25/2005 by Kaurley & Snyder

Wednesday

March 9, 2005

From PTO

09/40, 845

Issue Notification

10/786, 398

Advisory Action

08/987, 849

Misc Comments Regarding
Conclusion of IDS

09/627, 558

Non-Final Office Action

09/397, 578

Notice of Allowance, Issue Fee Due

10/702, 190

Return Postcard (from Keith)

11/034, 699

Return Postcard (from Keith)

10/023, 043

Return Postcard (from Keith)

10/800, 344

Return Postcard (from Keith)

11/054, 088

Return Postcard (from Keith)

09/783, 690

Notice of Rectification (from Keith)

10/016, 111

Notice of Rectification (from Keith)

To PTO

09/875, 003 (OC)

Amend/Reply, (Trans & fee
trans) ltr, cert of mail, filed
3/2/2005 by Dittmarong & Carlson

10/385, 221

and 09/983, 690 (OC)

Amend/Reply, (Trans & fee trans)
ltr, cert of mail, filed 2/28/2005
by Dittmarong & Carlson

09/123, 109 (OC)

Amend/Reply, (Trans & fee
trans) ltr, cert of mail, filed
3/2/2005 by Dittmarong & Carlson

Wednesday (cont.)

March 9, 2005 (cont.)

To PTO (cont.)

10/013, 777 (OC)

Amend/Reply, (Trans & fee
trans) ltr, filed 3/1/2005
by Dittmarong & Carlson

SKY05001 (OC)

CIP Applic w/ 36 pp spec, 11
sheets drump, dec, applic
data sheet, PTO 1595, assign,
util (Trans & fee trans) ltr,
cert of express mail, filed
2/25/2005 by Dittmarong
& Carlson

Serial No.: Docket: RIC-96-161
Filing Date: 12/31/97 Attorney: Deborah Miller
Applicant(s): Hayes et al
Title: System and Method for Establishing a Virtual Circuit in an ATM
Network

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101 Filing Fee
102 Extra ind. claims
103 Extra claims
104 Multiple Dependent claims
105 Surcharge NTFMP
114 Provisional Filing Fee
115 Extension for response 1 month
116 Extension for response 2 months
117 Extension for response 3 months
118 extension for response 4 months
119 Notice of Appeal
123 Petition for Provisional Application
126 Submission of IDS
142 Utility Issue Fee

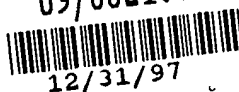
Serial No.: Docket: RIC-96-161
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PATENT APPLICATION TRANSMITTAL

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Transmitted herewith for filing is the Utility Patent Application of:

Inventor(s): David S. Hayes
Randy Haberman
Steve Herlocher

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Title:

System and Method for Establishing a Virtual Circuit in an ATM Network

The Filing Fee has been calculated below:

	Number Filed	Number Extra	Rate	Fee
Basic Fee			\$790.00	\$790.00
Total Claims	29 - 20 =	9	x \$22.00	\$198.00
Independent Claims	4 - 3 =	1	x \$78.00	\$82.00
Multiple Dependent Claim Present			\$250.00	
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Total Filing Fee \$1,070.00

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This patent application is being submitted under 37 C.F.R. Section 53(b) without filing fee.

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System and Method for Establishing a Virtual Circuit in an ATM Network

Inventors: David S. Hayes
Randy Haberman
Steve Herlocher

5

Background of the Invention

Field of the Invention

The present invention is directed to a telecommunications network and, in particular, to a system and method for establishing a virtual circuit in an ATM network.

10

Related Art

Computer networks often are designed to connect "client" systems with "server" systems. A client is a device and/or software that requests information from a server. A client may be a computer system or process, for example. The server is typically a shared computer in which data is stored and from which data is distributed. A server may be a computer program, a database system, or a computer system, for example. The server provides a service to clients utilizing a "client-server model."

15

According to the client-server model, the client connects to the server, sends a request (or query) to the server, and waits for a response from the server. The client may request that the server perform a computation, retrieve a file, or search a database for a particular entry, for example. It is not uncommon for the client to subsequently translate the server's response into a format that a human can understand.

20

Computer networks are often designed with multiple servers to increase network reliability. Those skilled in the art will recognize that server redundancy decreases the disruption felt by the network when one or more servers fail. When failure does occur, client queries can be redirected to alternate servers capable of handling the queries.

Many networks today employ an asynchronous transfer mode (ATM) scheme for network communication. ATM networks are particularly useful in today's multi-vendor environment where applications have different performance, quality, and business requirements, but which utilize the same computer, multiplexer, router, switch, and/or network.

Routing of queries in an ATM network is based on virtual circuit routing. A virtual circuit is a circuit that appears to the client and to the server to be a dedicated point-to-point circuit. An ATM network must establish a path from the client to the server (*i.e.*, the virtual circuit) before client / server communication can begin. The ATM network establishes a virtual circuit after receiving a request for connection from a client. The request for connection includes an address which identifies the desired server to the ATM network. Through a private network-to-network interface (PNNI) routing process, the ATM network selects the best path through the network from the requesting client to the desired server. These conventional ATM routing techniques are well known to those skilled in the art.

Conventional ATM routing performs poorly where the desired server has failed or is otherwise unavailable. Queries must be routed to a new server capable of handling the query. Some clients may not be capable of selecting a new server—these clients may not have their queries answered. Other clients may be capable of selecting a new server, but doing so requires additional time and the

client must maintain a list of all currently available servers and their addresses. What is needed, therefore, is a system and method for establishing a virtual circuit in an ATM network to any one of a set of suitable servers without the client having to know either the status or address of suitable servers.

5

Summary of the Invention

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The present invention is directed to a system and method for establishing a virtual circuit from a client through an ATM network to a server, where the server is selected from a group of servers. The client requesting the virtual circuit need not know the individual address of any of the servers in the group, only the address of the group itself. Selection of a particular server is transparent to the client—the ATM network is responsible for selecting a server from the group identified by the client.

15

One advantage of the present invention is that clients are not responsible for selecting an alternate server in the event of server failure. According to the present invention, routing decisions are made at the network level rather than by the client. When a request for connection is received from a client, a virtual circuit is established between the client and a server from the selected functional group which is known to be operational. The client is therefore relieved of the responsibility of handling failed requests for connection.

20

Another feature of the present invention is that connections to servers within a particular functional group may be distributed according to a desired criteria. In a preferred embodiment, connections may be distributed according to the processing load carried by each server in a functional group—servers receive requests for connection at a rate inversely proportional to their current processing load. This allows queries directed to a particular functional group to be

25

distributed to servers able to respond most quickly, thereby maximizing the performance of the ATM network.

5 Yet another feature of the present invention is that the client need not know the address of each server in the ATM network. The client need only know the address of a functional group of servers. The addresses of individual servers within each functional group may therefore be modified without requiring that new addresses be stored at each client.

10 Further features and advantages of the invention, as well as the structure and operation of various embodiments of the invention, are described in detail below with reference to the accompanying figures. In the drawings, like reference numbers generally indicate identical, functionally similar, and/or structurally similar elements. The drawing in which an element first appears is indicated by the leftmost digit(s) in the corresponding reference number.

Brief Description of the Figures

15 The present invention will be described with reference to the accompanying drawings, wherein:

FIG. 1 is a block diagram of a network environment within which the present invention is used;

20 FIG. 2 is a block diagram illustrating a network environment in more detail;

FIG. 3 is a block diagram illustrating the software components of a multiple destination routing controller;

FIG. 4 is a flowchart of the operation of a preferred embodiment of the invention; and

FIG. 5 is a block diagram of a computer system representing a preferred implementation of a multiple destination routing controller.

Detailed Description of the Preferred Embodiments

I. Overview of the Invention

5 The present invention is directed to a system and method for establishing a virtual circuit in an ATM network. According to the present invention, a client transmits a request for a virtual circuit (*i.e.*, a request for connection) to an ATM network. The request specifies an address identifying a group of servers which are all capable of providing a desired function (*i.e.*, a functional group).

10 Upon receiving the request for connection, the network of the present invention selects a suitable server from the identified functional group. Importantly, the selection of a particular server is made at the network level, rather than by the client. The network then creates a virtual circuit connecting the client to the selected server. Communication between the client and server may
15 then proceed according to standard ATM techniques.

II. ATM Network Environment

 The present invention is suitable for operation in an ATM network environment. As is well known to those skilled in the art, ATM networks use various communication protocols, depending generally upon the type of devices
20 which are communicating: network-to-network interface (NNI) signaling protocol is used between ATM switches, user-to-network interface (UNI) signaling protocol is used between clients/servers and the ATM network, and

private-network-to-network interface (PNNI) routing requests are used by ATM switches to determine proper routing for the virtual circuit.

5 The present invention is described herein in the context of an ATM network environment. It should be understood, however, that the present invention is not limited to this environment. Those skilled in the art will recognize that the present invention can operate within other network environments following protocols similar to the ATM network protocol, such as a TCP/IP network protocol.

10 FIG. 1 is a block diagram of an example network environment 100 suitable for implementation of a preferred embodiment of the present invention. Network environment 100 includes an ATM network 102, clients 104 (indicated by reference numbers 104A through 104C), and servers 106 (indicated by references numbers 106A through 106C). Clients 104 and servers 106 communicate bi-directionally with ATM network 102. This example network environment is now described.

15 Clients 104 communicate with servers 106 via ATM network 102. According to the present invention, clients 104 and servers 106 interact in a conventional client/server relationship well known to those skilled in the art. However, ATM network 102 does not recognize a difference between clients 104 and servers 106. ATM network 102 is concerned with the transmission of data, without regard to which system is the "client" and which is the "server".

20 Consequently, clients 104 and servers 106 are so designated to indicate their relationship to each other, but are interchangeable so far as ATM network 102 is concerned.

As is known to those skilled in the art, clients **104** may contact a server **106** for many different purposes. Clients **104** and servers **106** may also be implemented in many different ways, so long as both are able to communicate via ATM network **102**. For example, client **104** represents a travel agent's airplane reservation system, and server **106** represents a central booking computer. Alternatively, client **104** represents a point-of-sale cash register, and server **106** represents a computer tasked with tracking inventory and sales. Alternatively still, client **104A** represents a gas pump with a credit card reader, and server **106** represents a credit checking computer.

FIG. 2 is a more detailed illustration of network environment **100**. ATM network **102** includes ATM switches **202** interconnected by communication pathways **204**, and a multiple destination routing controller **206**.

ATM switch **202** in a preferred embodiment is a conventional ATM switch. Alternatively, ATM switches **202** can be implemented using any network elements that are compatible with ATM technology, including NNI signaling protocol and PNNI routing protocol.

Communication pathways **204** represent bidirectional point-to-point channels between clients **104**, servers **106**, and ATM switches **202**. Communication pathways **204** support UNI or NNI signaling protocol as appropriate. As is well known to those skilled in the art, communications between an ATM switch **202** and an end-user (*i.e.*, a client or server) conventionally follow a UNI signaling protocol. Conversely, communications between ATM switches **202** conventionally follow a NNI signaling protocol. Communication pathway **204** therefore represents a bidirectional communication link which supports the signaling protocol appropriate to the devices connected to the link.

Multiple destination routing controller **206** is connected to the network of ATM switches **202** via one or more communication pathways **204**. FIG. 2 depicts a single communication pathway **204** between multiple destination routing controller **206** and ATM switch **202C**. However, those skilled in the art will recognize that multiple communication pathways **204** could be used to provide redundancy and enhanced network reliability. The operation of multiple destination routing controller **206** is described in detail below.

III. Conventional ATM Routing

Conventional ATM routing is now described in terms of a simple example. Referring to FIG. 1, assume in this example that client **104A** is a gas pump with a credit card reader that wishes to ask server **106A** "Is this credit card valid?" in response to customer's request to purchase gas with a credit card.

Communications between clients and servers via ATM network **102** may be analogized to a telephone call. Before any client/server communication can take place, client **104A** must establish a virtual circuit to server **106A**. In terms of the telephone call analogy, client **104A** calls server **106A** and server **106A** answers the call. In answering the call, server **106A** accepts the incoming virtual circuit and a communication path is established over which client **104A** and server **106A** can interact. Client **104A** can now make the query "Is this credit card valid?" for example, and server **106A** can answer the query.

Those skilled in the art will recognize that any end-user device (*e.g.*, client or server) can request a virtual circuit to any destination. In the context of the current invention, however, most virtual circuit requests come from client systems.

With conventional ATM networks, clients **104** must know the ATM address of the server **106** with which they wish to connect. This characteristic is analogous to conventional telephony, wherein the calling party must know the telephone number of the called party. Further, no two end-users have the same ATM address. Servers and clients each have a unique ATM address. Accordingly, in order to request a virtual circuit between them, client **104A** specifies the ATM address of server **106A**.

According to conventional PNNI routing, ATM network **102** selects the best route through ATM network **102** for a virtual circuit from client **104A** to server **106A**. Referring to FIG. 2, one possible route from client **104A** to server **106A** would be through ATM switches **202A** and **202B**. If, on the other hand, client **104A** wanted to establish a virtual circuit to server **106B**, then one possible route would be from client **104A** to ATM switch **202A** to ATM switch **202B** to server **106B**. Another route would be from client **104A** to ATM switch **202A** to ATM switch **202C** and to server **106B**. In either case, ATM network **102** uses the PNNI routing process to select the best route through ATM network **102** from client **104A** to server **106A** or to server **106B**.

Conventional PNNI routing procedures associate ATM switches into “peer groups” in order to create a routing hierarchy. Peer groups typically contain only a few ATM switches. Large ATM networks are constructed by combining peer groups together into larger peer groups. The PNNI routing protocol organizes the peer groups into a layered hierarchy. The use of peer groups organized into multiple hierarchical levels is well known to those skilled in the art, and will not be discussed in detail herein.

According to conventional ATM technology, one ATM switch in each peer group is designated the “peer group leader.” The peer group leader is

responsible for maintaining the topology of all ATM switches in its peer group. Additionally, the peer group leader also represents its peer group to higher layers in the routing hierarchy. If an ATM switch in a peer group receives a request for a virtual circuit and does not already know the correct route, the ATM switch asks
5 the peer group leader to determine the route.

Consider again the example described above wherein client **104A** wishes to establish a virtual circuit to server **106A**. Suppose that ATM switch **202C** is the peer group leader for a peer group consisting of ATM switch **202A**, ATM switch **202B**, and ATM switch **202C**. Client **104A** transmits to ATM switch
10 **202A** a request for connection with server **106A**, including server **106A**'s ATM address. Suppose further that ATM switch **202A** does not already know a route for a virtual circuit from client **104A** to server **106A**. ATM switch **202A** asks peer group leader ATM switch **202C** to determine a route from client **104A** to server **106A**.

15 A limitation of conventional ATM routing is that if server **106A** is not operational because of a failure, because of having been removed from service for routine maintenance or for some other reason, client **104A** is typically unaware of this status of server **106A**. If client **104A** is not capable of selecting a new server, then client **104A** may be unavailable to serve customers. That is, the gas
20 pump credit card reader will be out of service, for example.

If, on the other hand, client **104A** is capable of selecting a new server, then client **104A** may do so. However, time is wasted between determining that server **106A** is unavailable and selecting the secondary server. In any event, client **104A** may not know the individual ATM address for the secondary server.

5 Selecting a new server may also be complicated by the fact that typically
client **104A** does not have a view of the current conditions in the entire ATM
network. Client **104A** generally does not have access to the dynamic status of the
network. Knowing the status and ATM address of a particular secondary server
at any given point in time would require the client to maintain an up-to-date
listing of all currently available servers and their addresses. Status information
could be distributed to client **104A**, but this would increase the complexity and
expense of client systems. Moreover, this distribution of the information would
add to the load on ATM network **102**. The extra load would diminish ATM
10 network **102**'s capacity to carry queries.

IV. **Functional Groups within an ATM Network**

15 According to the present invention, client **104A** sends to ATM network
102 a request for connection. The request for connection differs from a
conventional request in that it specifies an address of a functional group of
servers, rather than a particular individual server. ATM network **102** selects a
server from the specified functional group and connects client **104A** to that
server. This is advantageous to client **104A** because ATM network **102** has a
better view of current network activity and status than client **104A**. Accordingly,
ATM network **102** can base a selection decision on factors not available to client
20 **104A**, such as the current processing load carried by each server. The following
section provides further details related to server selection and routing.

25 According to the present invention, servers **106** are grouped according to
the functions they perform. Each server **106** in a particular functional group must
be able to service any request from a client **104** sent to the group. The present
invention assumes that any operational server within a functional group may be
selected to service a client query sent to that group. For example, several servers

may be grouped together to verify credit card purchases at gas pumps. Each server in the group must be able to process credit card queries sent to that group.

5 Each functional group is assigned a unique ATM address. For example, a group of servers validating credit cards may be assigned an ATM address of 0000.0000.0001. Similarly, a group of servers handling toll-free routing information may be assigned an ATM address of 0000.0000.0002. The ATM functional group addresses may be chosen arbitrarily and assigned at the convenience of an administrator of ATM network 102.

10 Each server in a functional group is configured to respond to the ATM functional group address. A single server may be included within more than one functional groups, so long as that server is capable of servicing client queries sent to each of the groups. Servers may therefore respond to two or more ATM addresses: their individual ATM address, and the address of each functional group to which they belong.

15 For example, referring to FIG. 2, suppose that server 106A has a device address of 0000.0000.0010, server 106B has a device address of 0000.0000.0020, and the functional group consisting of 106A and 106B has a functional group address of 0000.0000.0030. According to the present invention, server 106A responds to the address 0000.0000.0010 as well as to the address
20 0000.0000.0030. Likewise, server 106B responds to the address of 0000.0000.0020 as well as to the address of 000.0000.0030.

V. Operation of Multiple Destination Routing Controller

The operation of multiple destination routing controller (MDRC) 206 will be now described with reference to FIG's 3 and 4. FIG. 3 is a block diagram 300 depicting the various software components of MDRC 206: an interface module 302, a routing module 304, a peer group leader module 308, and a server module 310. FIG. 4 is a flowchart 400 depicting the steps performed by ATM network 102, including MDRC 206, according to a preferred embodiment.

In FIG. 3, each of these software components, or modules, represent a particular function performed by a computer under the control of computer software. Often the line between the functionality of one component and the next is arbitrarily drawn, and is described as such purely for purposes of convenience. For instance, a function described as being performed by server module 306 might equivalently be performed by interface module 302 or routing module 304. Those skilled in the art will note the importance of the function described, not the arbitrary grouping of functionality into software modules.

Those skilled in the art will recognize that creating software code based on the following functional descriptions is well within an ordinary level of skill. Those skilled in the art will also recognize that, depending upon the environment and the hardware used, different languages would be appropriate under different circumstances. Again, the choice of a particular language is well within the level of ordinary skill in the art.

Interface module 302 handles all communications between the various other software modules, and all communications outside MDRC 206. Here, interface module 302 provides the interface for communicating with ATM switch 202C. Interface module 302 is implemented as conventional input/output and

control routines. Interface module **302** is shown in FIG. 3 primarily for purposes of illustrative clarity—those skilled in the art will recognize that interface module **302** could have been omitted from FIG. 3, as these are functions performed by all software routines, and can be assumed to be part of any software implementation.

5 Peer group leader module **308** causes ATM network **102** to elect MDRC **206** as peer group leader. According to standard ATM technology, a peer group leader is elected for each peer group. This insures that all request for routing in that peer group are directed to MDRC **206**. In a preferred embodiment, peer group leader module **308** arranges to win this election by broadcasting an
10 artificially higher preference for MDRC **206**. However, those skilled in the art will recognize that there are many alternate approaches to having MDRC **206** elected peer group leader.

 Another alternate approach is to manually configure ATM network **102**, assigning MDRC **206** as peer group leader. In this approach, peer group leader
15 module **308** no longer is necessary to insure that MDRC **206** is elected peer group leader. However, those skilled in the art will recognize that other functions may still need to be performed according to ATM protocol, such as periodically broadcasting "keep-alive" packets to all members of the peer group.

 Referring now to FIG. 4, flowchart **400** illustrates the operation of ATM
20 network **102** according to a preferred embodiment of the present invention, including the operation of MDRC **206**. These steps will be described in the context of the example outlined above, where client **104A** wishes to contact a server capable of providing a particular service, such as authorizing a credit card purchase. For purposes of this example, assume that servers **106A** and **106B** are
25 included within a functional group which provides this service. Assume that client **104A** has sent a request for connection to ATM switch **202A** specifying

this functional group. Further assume that, prior to the request for connection being sent, peer group leader module 308 has caused MDRC 206 to be elected peer group leader of the peer group including ATM switches 202A, 202B, and 202C.

5 In step 404, ATM switch 202A receives a request for connection from client 104A, as mentioned above. Since the functional group address does not belong to any actual physical device, ATM switch 202A cannot itself determine a route to establish a virtual circuit. Following conventional procedures of PNNI, in step 406 ATM switch 202A sends a routing request to the peer group leader,
10 which in this case is MDRC 206, requesting a route to the functional group address.

 Interface module 302 receives the routing request from ATM switch 202A, via ATM switch 202C. As peer group leader, MDRC 208 must handle all PNNI routing requests from the peer group, both those specifying a functional
15 group address, and those specifying a conventional ATM address.

 Routing module 304 determines routings through ATM network 102 according to conventional ATM technology. For instance, routing module 304 can determine a routing between client 104A and server 106A. When a routing request is received specifying a conventional ATM address, routing module 304
20 determines an appropriate routing, and returns the routing to the requesting ATM switch 202, which then sets up a virtual circuit according to the routing.

 However, routing requests which specify a functional group address are handled differently. Server module 310 maintains a list of the servers assigned to each functional group, including each server's individual ATM address. In a
25 preferred embodiment, the network administrator provides this list to server

module 310. Server module 310 also uses conventional techniques to automatically maintain this list by determining which of the servers are actually able to respond at any given moment. This list is updated periodically according to conventional techniques.

5 In step 408, server module 310 consults the list of servers and selects a server to service client 104A from the functional group specified in the routing request (and in the request for connection). Server module 310 can make this selection based on a variety of criteria, depending upon the particular network environment. For instance, the server may be selected based on proximity to the
10 requesting client, network load, available server capacity, or other application-specific factors. However, server module 310 will not select a server which is known to be unreachable.

 In step 410, routing module 304 determines a route through ATM network 102, from client 104A to the server selected by server module 310, in this case
15 server 106A. Again, this is a conventional function of PNNI routing. Routing module 304 need not deviate from conventional ATM practice. The computed route takes the form of an ATM designated transit list (DTL). As is well known to those skilled in the art, this is a list of ATM switches and communication pathways over which the new virtual circuit should be routed. The DTL is a
20 standard PNNI message, well known to those skilled in the art. Referring to FIG. 2, an example route is from client 104A, through ATM switches 202A and 202B, to server 106A.

 In step 412, interface module 302 transmits the resulting route to ATM switch 202A as a DTL. In step 414, ATM switch 202A creates a virtual circuit
25 through the route specified in the DTL. The request for connection will arrive at the selected server, server 106A, still bearing the ATM address of the functional

group. As stated above, according to the present invention each server must recognize its own ATM address as well as the ATM address of each functional group of which it is a part.

5 Now that a virtual circuit is established, client 104A may begin normal communications with server 106A in a conventional client/server manner.

10 It is important to note that the virtual circuit need not flow through multiple destination routing controller 206. According to conventional PNNI routing procedures, a DTL need not include the peer group leader within the chosen route. As a result, the peer group leader does not have to perform the functions of an ATM switch. MDRC 206 may therefore be implemented as a general purpose computer without the special capabilities of an ATM switch.

VI. Implementation of Multiple Destination Routing Controller

15 In a preferred embodiment, multiple destination routing controller 206 is implemented as a general purpose computer system, described in detail below. In an alternate embodiment, multiple destination routing controller 206 is implemented using a special purpose computer system. In still another embodiment, the functions of multiple destination routing controller 206 are integrated into a conventional ATM switch, such as ATM switch 202. Those skilled in the art will recognize the various tradeoffs associated with each particular implementation.

20

Multiple destination routing controller 206 can be implemented using hardware, software, or a combination thereof and may be implemented as a computer system or other processing system. An example computer system 500 is shown in FIG. 5. Computer system 500 includes a communication bus, such

as communication bus 502, and one or more processors, such as processor 504. Processor 504 is connected to communication bus 502.

Computer system 500 also includes a main memory 506, preferably random access memory (RAM), and may also include a secondary memory 508. Secondary memory 508 may include, for example, a hard disk drive 510 and/or a removable storage device 512, representing a floppy disk drive, a magnetic tape drive, and optical disk drive, etc. Removable storage device 512 reads from and/or writes to a removable storage medium 514 in a well known manner. Removable storage medium 514 represents a floppy disk, magnetic tape, optical disk, etc., which is read from and written to by removable storage device 512. As will be appreciated, removable storage medium 514 includes a computer usable storage medium having stored therein computer software and/or data.

In alternate embodiments, secondary memory 508 may include other similar means for allowing computer programs or other instructions to be loaded into computer system 500. Such means can include, for example, a removable storage unit 522 and an interface 520. Examples of such can include a program cartridge and cartridge interface (such as that found in video game devices), a removable memory chip (such as an EPROM or PROM) and associated socket, and other removable storage units 522 and interfaces 520 which allow software and data to be transferred to computer system 500.

Computer system 500 includes a communications interface 524. Communications interface 524 allows software and data to be transferred between computer system 500 and the ATM network 102. Examples of communications interface 524 can include a modem, a network interface (such as an Ethernet card), a communications port, a PCMCIA slot and card, etc. Software and data transferred via communications interface 524 are in the form

of signals which can be electronic, electromagnetic, optical or other signals capable of being received by communications interface 524. These signals are provided to communications interface via communications pathway 204.

5 In this document, the terms “computer program medium” and “computer usable medium” are used to generally refer to media such as removable storage device 518 and hard disk installed in hard disk drive 510. These computer program products are means for providing software to computer system 500.

10 In an alternate embodiment, the invention is implemented using computer programs (or software). Computer programs (also called computer control logic) are stored in main memory 506 and/or secondary memory 508. Computer programs can also be received via communications interface 524. Such computer programs, when executed, enable the computer system 500 to perform the features of the present invention as discussed herein. In particular,
15 the computer programs, when executed, enable the processor 504 to perform the features of the present invention. Accordingly, such computer programs represent controllers of the computer system 500.

20 In the embodiment where the invention is implemented using software, the software may be stored in a computer program product and loaded into computer system 500 using removable storage device 512, hard drive 510 or communications interface 524. The control logic (software), when executed by the processor 504, causes the processor 504 to perform the functions of the invention as described herein.

25 In another embodiment, the invention is implemented primarily in hardware using, for example, hardware components such as application specific

integrated circuits (ASICs). Implementation of the hardware state machine so as to perform the functions described herein will be apparent to persons skilled in the relevant art(s).

5 In yet another embodiment, the invention is implemented using a combination of both hardware and software.

VII. Conclusion

10 While the invention has been particularly shown and described with reference to preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the invention.

What Is Claimed Is:

1 1. A method for establishing a virtual circuit from a client to one of a
2 plurality of servers through a network, comprising the steps of:

3 (1) receiving a request for connection from a client, wherein said
4 request specifies a functional group, and wherein said functional group includes
5 a plurality of servers, each capable of servicing said client;

6 (2) selecting a server from said functional group;

7 (3) computing a route to said server; and

8 (4) establishing a virtual circuit from said client to said server via said
9 route.

1 2. The method of claim 1, wherein said step of selecting a server further
2 comprises selecting an operational server from said functional group which has
3 the highest available computational power.

1 3. The method of claim 1, wherein said client is a telephone switching
2 system.

1 4. The method of claim 1, wherein said network is an ATM network.

1 5. The method of claim 1, wherein said network is a TCP/IP network.

1 6. A system for establishing a virtual circuit from a client to one of a
2 plurality of servers through a network, comprising:

3 an interface module coupled to receive a routing request from the
4 network, wherein said routing request specifies a functional group and a client,
5 and wherein said functional group includes a plurality of servers, each capable of
6 servicing said client;

7 a server module configured to select a server from said functional group;
8 and
9 a routing module configured to determine a route from said client to said
10 server through the network.

1 7. The system of claim 6, wherein said network is an ATM network.

1 8. The system of claim 7, wherein said system further comprises:
2 a peer group leader module configured to cause the network to elect said
3 system as a peer group leader.

1 9. The system of claim 6, wherein said server module is configured to select
2 an operational server from said functional group which has the highest available
3 computational power.

1 10. The system of claim 6, wherein said server module is further configured
2 to maintain a list of functional groups within the network.

1 11. The system of claim 6, wherein said client is a telephone switching
2 system.

1 12. The system of claim 7, wherein each of said plurality of servers responds
2 to an ATM address for said functional group.

1 13. The system of claim 6, wherein the network is a TCP/IP network.

1 14. A computer program product comprising a computer useable medium
2 having computer program logic stored therein, wherein said computer program
3 logic comprises:

4 interface means for enabling a computer to receive a routing request from
5 a network, wherein said routing request specifies a functional group and a client,
6 and wherein said functional group includes a plurality of servers, each capable of
7 servicing said client;

8 server means for enabling said computer to select a server from said
9 functional group; and

10 routing means for enabling said computer to determine a route from said
11 client to said server through said network.

1 15. The computer program product of claim 14, wherein said network is an
2 ATM network.

1 16. The computer program product of claim 14, wherein said network is a
2 TCP/IP network.

1 17. The computer program product of claim 15, wherein said computer
2 program logic further comprises:

3 a peer group leader means for enabling said computer to cause said ATM
4 network to elect said system as a peer group leader.

1 18. The computer program product of claim 14, wherein said server means
2 enables said computer to select an operational server from said functional group
3 which has the highest available computational power.

1 19. The computer program product of claim 14, wherein said server means
2 further enables said computer to maintain a list of functional groups within said
3 network.

1 20. The computer program product of claim 14, wherein said client is a
2 telephone switching system.

1 21. The computer program product of claim 15, wherein each of said plurality
2 of servers responds to an ATM address for said functional group.

1 22. A computer, comprising:
2 a processor;
3 interface means for enabling said processor to receive a routing request
4 from a network, wherein said routing request specifies a functional group and a
5 client, and wherein said functional group includes a plurality of servers, each
6 capable of servicing said client;
7 server means for enabling said processor to select a server from said
8 functional group; and
9 routing means for enabling said processor to determine a route from said
10 client to said server through said network.

1 23. The computer of claim 22, wherein said network is an ATM network.

1 24. The computer of claim 22, wherein said network is a TCP/IP network.

1 25. The computer of claim 23, wherein said computer further comprises:
2 a peer group leader means for enabling said processor to cause said ATM
3 network to elect said system as a peer group leader.

1 26. The computer of claim 22, wherein said server means enables said
2 processor to select an operational server from said functional group which has the
3 highest available computational power.

1 27. The computer of claim 22, wherein said server means further enables said
2 processor to maintain a list of functional groups within said network.

1 28. The computer of claim 22, wherein said client is a telephone switching
2 system.

1 29. The computer of claim 23, wherein each of said plurality of servers
2 responds to an ATM address for said functional group.

System and Method for an Origination to a Plurality of Destinations over an ATM Network

Abstract

System and method for establishing a virtual circuit from a client, through an ATM network, to any one of a plurality of servers forming a functional group. The present invention operates as a peer group leader within the ATM network, routing virtual circuits when a routing request is received. The present invention
5 selects an operation server from the functional group, computes a route from the client to the selected server, and returns the route in a designated transit list.

A148-03.WPD

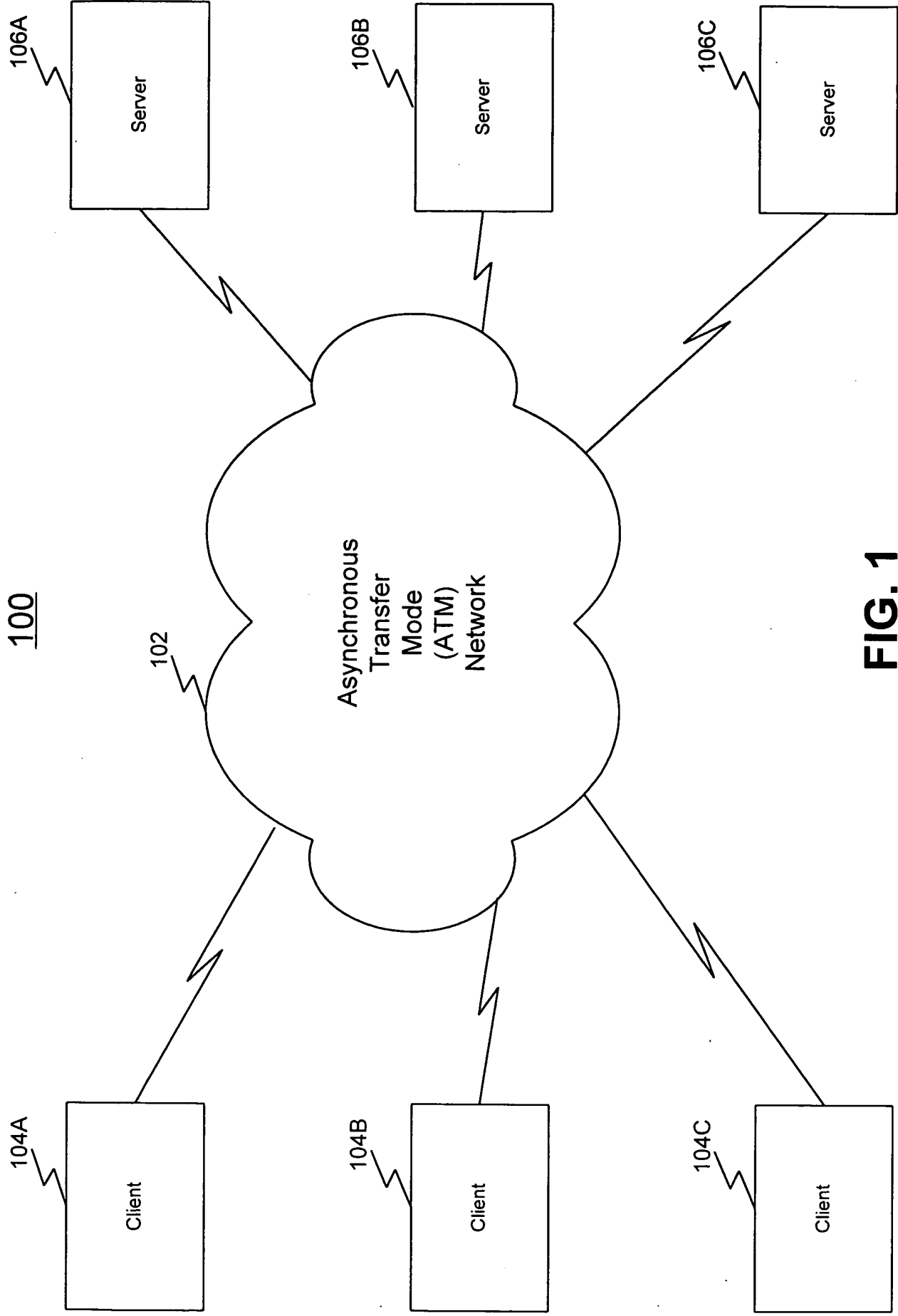
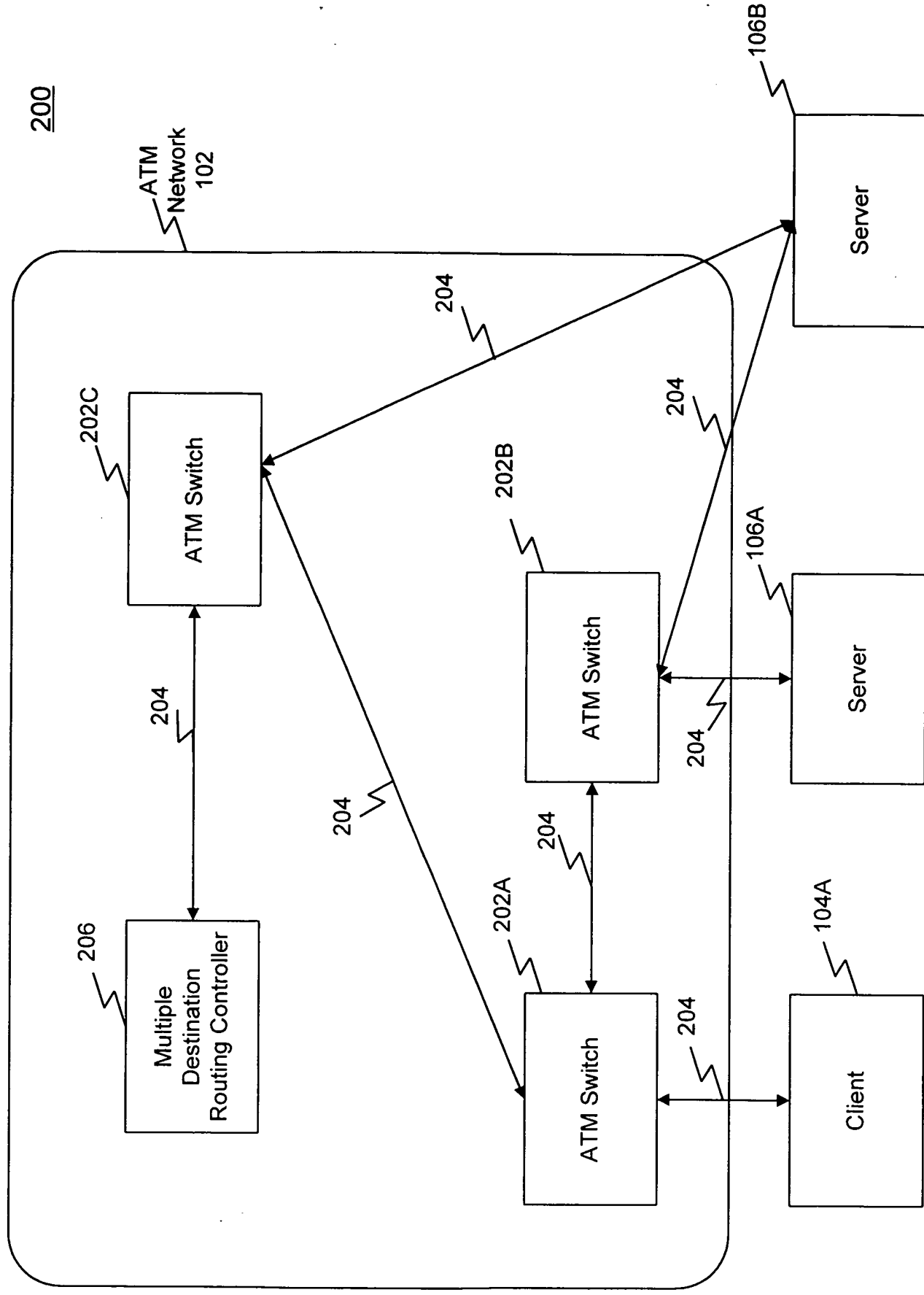


FIG. 1



200

ATM Network
102

202C

ATM Switch

204

206

Multiple
Destination
Routing Controller

204

204

202A

ATM Switch

204

202B

ATM Switch

204

204

106B

Server

106A

Server

104A

Client

204

FIG. 2

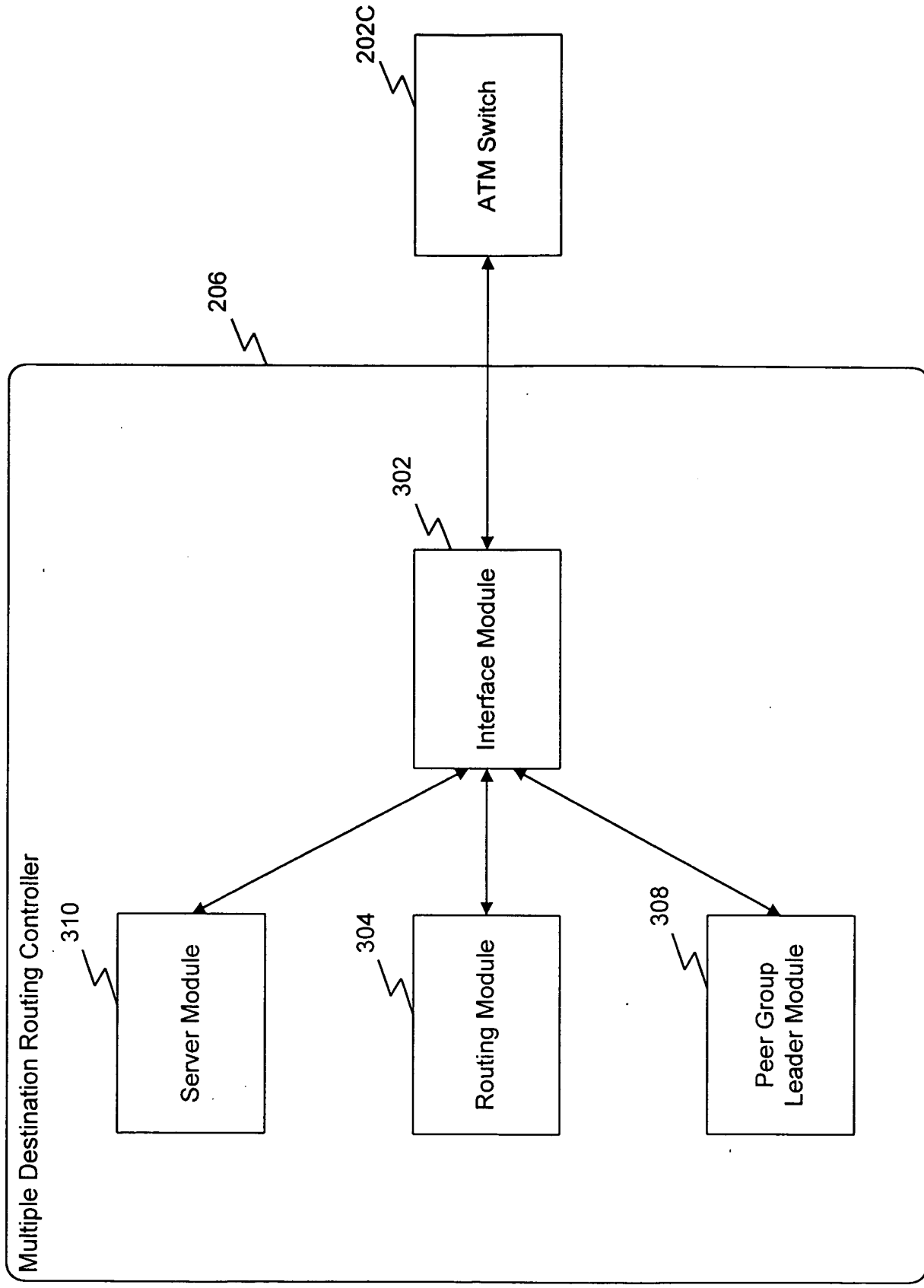
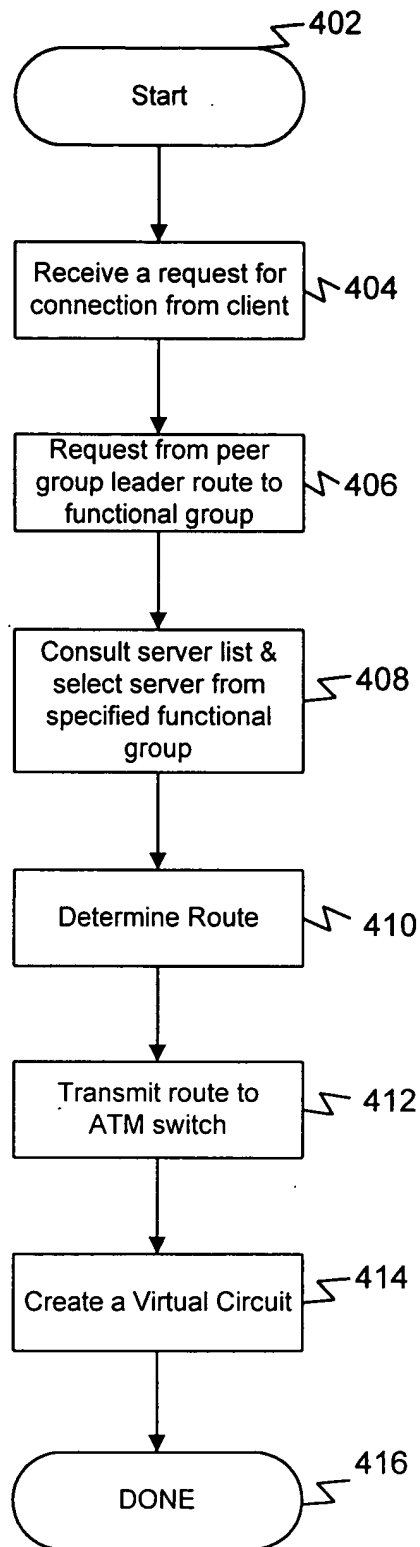
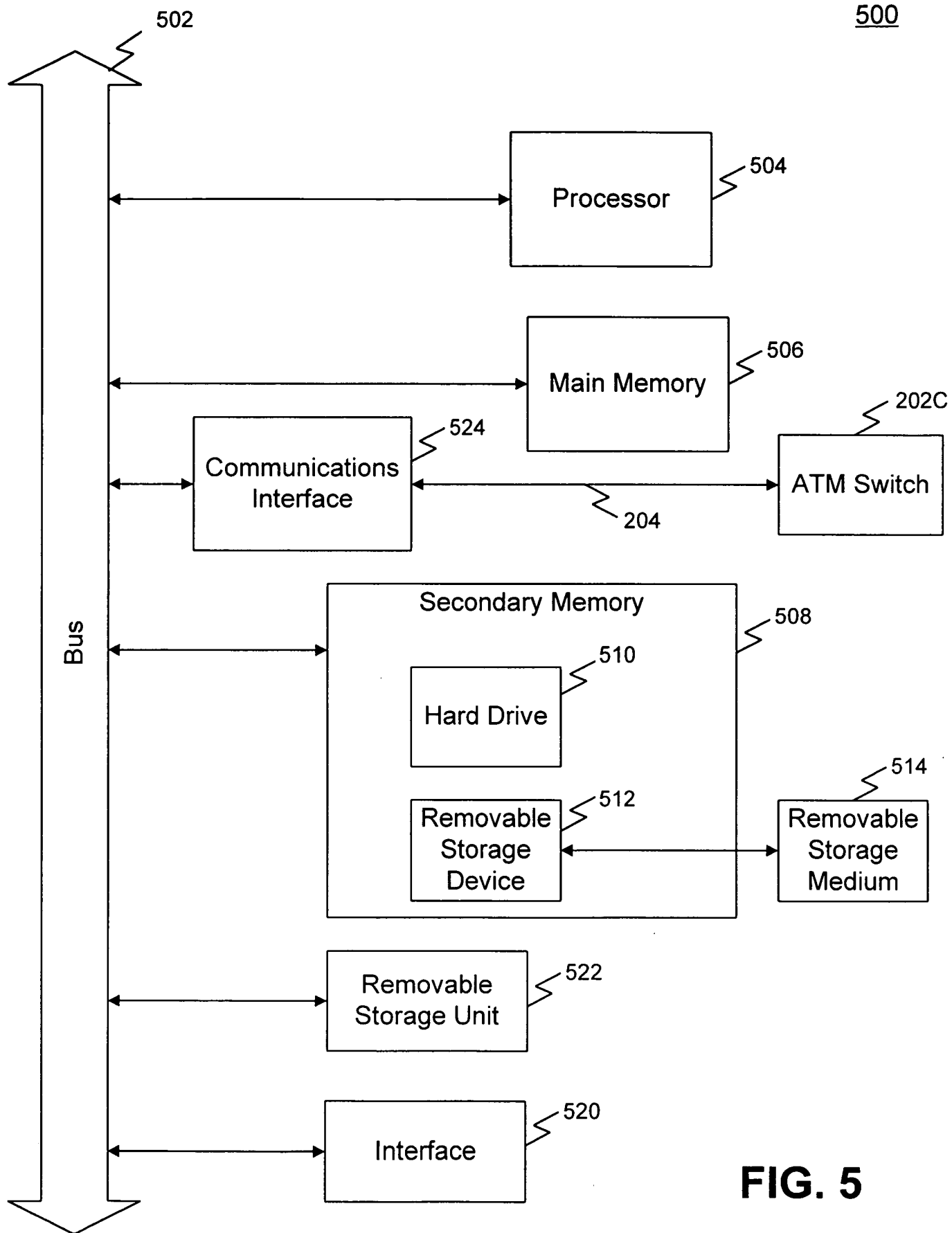


FIG. 3

**FIG. 4**

**FIG. 5**

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PRELIMINARY CLASS: 364

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